

ABSTRACT

5 A Pb-free hot-dip Sn-Zn coated steel sheet having
superior corrosion resistance and workability and
suitable as a material for an automobile fuel tank is
provided, that is, hot-dip Sn-Zn coated steel sheet
obtained by forming a hot-dip coating layer comprised of
1 to 8.8 wt% of Zn and the balance of Sn in an amount of
91.2 to 99.0 wt% and unavoidable impurities and/or
10 ancillary ingredients on the surface of steel sheet, the
coating surface having Sn dendrite crystals and Sn
dendrite arm spacings buried by an Sn-Zn two-way eutectic
structure, an area ratio of Sn dendrites in the coating
surface being 5 to 90%, and the arm spacing of the Sn
15 dendrites being not more than 0.1 mm, preferably hot-dip
Sn-Zn coated steel sheet superior in corrosion resistance
and workability having a discontinuous FeSn_2 alloy phase
at the surface of the steel sheet, having an area ratio
of the FeSn_2 alloy phase of at least 1% and less than
20 100%, and having an Sn-(1 to 30wt%)Zn composition on top
of that, more preferably having a surface roughness of
the discontinuous FeSn_2 alloy phase of 0.1 to 2.5 μm in
terms of RMS.